

ABSTRACT OF THE DISCLOSURE

An image area extract unit includes a modeling unit for generating a pixel evaluation model used for extraction, and an extract unit for extracting a characteristic portion from an original image using the pixel evaluation model. The modeling unit sequentially generates a plurality of partial polynomials according to a modified Group Method of Data Handling using a training image taken under the same condition under which the original image is taken and a supervisory image that designates the characteristic portion of the training image. Each of the generated partial polynomials is outputted to the extract unit in the form of its coefficients only when a square error satisfies a predetermined criterion. The extract unit calculates the feature values for each pixel of the original image using the pixel evaluation model, and defines the extractive area that includes the characteristic portion based on the feature values.